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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,938	06/30/2000	D'Arcy M. Tyrrell III	062986.0188	1501

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EXAMINER	
CHOUDHARY, ANITA	

ART UNIT	PAPER NUMBER
2153	9

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/608,938	TYRRELL, D'ARCY M.	
	Examiner	Art Unit	
	Anita Choudhary	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on January 6, 2004 under 37 CFR 1.312 has been entered. Claims 1, 9, and 14 have been amended and are presented for further examination.

Claims 1-20 are presented.

Response to Arguments

Applicant's arguments with respect to claims 1, 9, and 11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 9, and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1, 9, and 14 use the limitations "first subset" and "second subset" (claim 1 line 8 and 16) and "subset" (claim 9 lines 13 and 16, claim 14 lines 12 and 14). These limitations were not found to be described in specification. Examiner request Applicant to point out where in the specification first subset and second subset are described. For purposes of this

action, Examiner has interpreted these limitations to be implying a job (set) divided into portions (subsets), wherein each portion is handled by respective remote servers and not by any other server.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7-11 and 13-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Austin et al. (US 5,761,369) in view of Blank et al. (US 6,496,823).

In referring to claim 1 and 14, Austin shows a system for local and remote document processing of jobs. Each document processing system consists of at least a first and second virtual service (VS1, VS2, ... fig. 13) used to store and process first and second jobs of an image data. The virtual services are implemented as software or hardware or a combination of the two (col. 16 lines 50-53). Austin shows:

- A local rendering system receiving a render job (composite job) having a plurality of render frames (compound jobs/segments) and associated job descriptions (d_j) (col. 11 lines 1-12).
- At least one remote rendering system (fig. 15, col. 17 lines 56-61) comprising a plurality of remote render servers (virtual services) and a second schedule server (document manager) coupled to the plurality of remote render servers (virtual services) and operable to receive from the local rendering system (fig. 13) the render job (composite job) and render the render

job by distributing one or more different render frames (first and second compound jobs) on the render job to at least two of the plurality of remote servers (VS1 and VS2) and further operable to return a result of the render job to the local rendering system (fig. 15) (col. 17 lines 37-61).

- Wherein the local rendering system comprises a plurality of local render servers (virtual services) a first schedule server coupled to the plurality of local render servers and operable to determine, based at least in part on the job description, whether to render the render job locally by distributing one or more different render frames of the render job to at least two of the plurality of local render servers or to send the render job to the at least one remote rendering system for distributed rendering (col. 17 lines 37-56).
- Wherein the first schedule server (document manager) is operable to collect and deliver to a remote rendering system (fig. 15), via a first hot folder (76, col. 17 lines 18-26) and a communication medium, information associated with the render job.

Austin discloses in an example embodiment, a document system receiving a job request from a client in the form of a page description language file (pdl) consisting of a compound job ticket associated with plural jobs (col. 16 lines 57). Data Manager distributes each job to various virtual services according to the table shown in figure 13, which shows the routing of a job type to a particular service. First and second jobs are transmitted to first and second virtual services, and as Austin further points out, each service can be run concurrently (col. 17 lines 29-30). After the documents have been processed they are stored at the virtual service for retrieval by the client. Although Austin emphasizes print and fax jobs it is well known in the art, that the virtual service is capable of storing and forwarding softcopies of processed documents.

Austin also shows the transferring of jobs to a remote rendering system controlled by a remote document manager (fig. 15), responsible for distributing first and second frames to remote first and second virtual services, similar to the illustration of the document manager shown in fig. 13. The remote document manager is coupled to an identical structure to that show in fig. 13. The system offers remote document processing relative to the document processing system shown in fig. 13 (see col. 17 lines 56-61).

Although Austin shows substantial features of the claimed invention, Austin does not particularly point out a respective subsets wherein each respective subset is not distributed to any of the at least two of the plurality of remote render servers other than the respective one of the plurality of remote render server. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Austin as evidenced by Blank.

In an analogous art, Blank shows a system for dividing work to be distributed to processors in a multi-processor system using parallel processing. Portions of work are divided according to scaling factor of a processor. Accordingly Blank shows,

Respective subsets (portions) of one or more frames sent to respective one of at least two of a plurality of servers (processor in a multi-processor system), each respective subset not distributed to any of the at least two of the plurality of remote render servers (processor) other than the respective one of he plurality of remote render servers (processor) (see col. 5 lines 28-36, col. 9 lines 30-51, portions are not shared between processors because an assigned portion of work is determined by the work load the processor can handle and therefore it cannot take any more work portions than it can is determined to handle).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Austin, to employ the features shown by Blank in order to perform parallel processing in a more efficient manner by allocating work to processors (see Blank col. 2 lines 28-34).

In referring to claim 2, Austin shows a resource server (distribution agent) and a remote render service operable to create render slots for processing the render job (job ticket at the VS, col. 18 lines 43-55).

In referring to claim 3, Austin shows the second schedule server (documents manager, fig. 15) operable to receive a render job from the local rending system via a second hot folder (76) and distribute the job to at least two remote services based on information provided in the job description (dj and table in fig. 13) and further based on information in resource database (distribution agents database- db) (col. 17 line 62- col. 18 line 29).

In referring to claim 4, Austin shows a new job queue (S3a.b) and outsourced job queue (fig. 15), wherein the distribution agent is able to move the job from new job queue to outsourced job when the job description specifies remote rendering (col. 17 line 56-61).

In referring to claim 5, Austin shows that the remote rendering system is able to queue incoming jobs from the local rendering system as active jobs (col. 18 lines 35-39).

In referring to claim 7, Austin shows that the second schedule server is operable to deliver the completed render job to the local rendering system via the communication medium shown in fig. 15.

In referring to claim 8, 13, and 19, Austin shows the document manager is able to store and transmit completed jobs by placing them into storage and notifying the supplier of the

completion of render job. The document manager is able to remove the job from an outsource job queue comprising one or more render jobs sent to the remote rendering system (col. 18 lines 30-55).

In referring to claim 9, in addition to **claims 1 and 4 above**, Austin shows the delivering of jobs to remote system and advancing a queue as jobs are processed (col. 17 lines 27-46).

In referring to claim 10, Austin shows the job profile is based on job description provided by a client (col. 11 lines 1-28).

In referring to claim 11 and 18, Austin shows delivering a render job from a first hot folder (fig. 5, 76) located at distribution agent which is coupled to document manager, to a second hot folder at a distribution agent remotely located from first distribution agent, and coupled to a remote document manger (fig. 13 and 15, col. 17 lines 18-26 and 56-61). The remote rendering system is able to queue incoming jobs from the local rendering system as active jobs (col. 18 lines 35-39).

In referring to claim 15, Austin shows redirecting request by the remote services to access the associated files from a central file storage location at distribution agent (col. 17 lines 18-26).

In referring to claim 16, Austin shows the remote services writing an output file associated with the render job to a central storage area at the document processor (col. 18 lines 56-65).

In referring to claim 17, Austin shows the document processing results are stored at virtual service.

In referring to claim 20, Austin shows the document manager is able to determine whether to render the render job at the first or second rendering site (col. 17 lines 56- col. 18 line 30).

Claims 6 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Austin in view of Blank in further view of Fontana et al. (6,167,563).

Austin shows substantial features of the claimed invention. In referring to claim 12, Austin shows distributing a job to a plurality of servers coupled to the system based in part on resource information stored in a resource database associated with a resource server, the resource information including availability information associated with a plurality of render slots created by the plurality of render servers.

Although Austin shows these features they do not explicitly show I/O wrapper. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Huang in view of Krum as evidenced by Fontana.

In an analogous art Fontana shows a method for executing application between client and server. Fontana shows:

Placing an I/O wrapper around a component on the server to allow any files accompanying the component to be monitored only by said component (col. 7 lines 44-67).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system disclosed by Austin, by employing the features shown by Fontana in order to monitor I/O operations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kraft et al. US (6,112,225).

Applicant should also be mindful that many features of parallel processing techniques used to carry out processing of a job/work/rendering by dividing work into portions is well known in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Choudhary whose telephone number is (703) 305-5268. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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